

**LEMON GROVE CITY COUNCIL  
AGENDA ITEM SUMMARY**

**Item No.** 6  
**Mtg. Date** August 2, 2016  
**Dept.** Public Works

**Item Title:** Engineering and Traffic Study and Speed Zone Update on Various Streets in Lemon Grove

**Staff Contact:** Tim Gabrielson, City Engineer

**Recommendation:**

Adopt a resolution (**Attachment C**) accepting the engineering and traffic survey and confirming and updating speed limits on various streets in Lemon Grove in conformance with Lemon Grove Municipal Code Section 10.12.010.

**Item Summary:**

The California Vehicle Code (CVC) establishes minimum and maximum prima facie speed limits for all streets in the State. The minimum prima facie speed limit is 25 miles per hour (MPH) and the maximum speed limit is 65 MPH and an engineering and traffic survey (E&TS) is required to change the prima facie and/or update various speed limits in the City. Because no streets in Lemon Grove qualify for the maximum speed, all prima facie speed limits in the City are established at 25 MPH unless speed limit changes are adopted by City Council based upon an approved E&TS and a City Council resolution. On August 5, 2008, City Council adopted Resolution No. 2815 establishing speed limits on various roadway segments in the City based upon an approved E&TS. This E&TS was valid for five years per the CVC and therefore, an updated E&TS is required to confirm and update speed limits on various City streets. The staff report (**Attachment A**) provides an analysis supporting staff's recommendation.

**Fiscal Impact:**

Any fiscal impact from posting or changing signs will be funded by the existing Public Works maintenance budget.

**Environmental Review:**

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Not subject to review         | <input type="checkbox"/> Negative Declaration           |
| <input type="checkbox"/> Categorical Exemption, Section [       ] | <input type="checkbox"/> Mitigated Negative Declaration |

**Public Information:**

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> None                     | <input type="checkbox"/> Newsletter article   | <input type="checkbox"/> Notice to property owners within 300 ft. |
| <input type="checkbox"/> Notice published in local newspaper | <input type="checkbox"/> Neighborhood meeting |   |

**Attachments:**

- A. Staff Report
- B. Engineering and Traffic Survey Summary Report
- C. Resolution



## LEMON GROVE CITY COUNCIL STAFF REPORT

Item No. 6

Mtg. Date August 2, 2016

Item Title: **Engineering and Traffic Study and Speed Zone Update on Various Streets in Lemon Grove**

Staff Contact: **Tim Gabrielson, City Engineer**

### **Discussion:**

This staff report provides background information regarding the need to perform an Engineering and Traffic Survey (E&TS) to establish City roadway speed limits, to provide an overview of required elements of an E&TS, and recommend modified speed limits on various streets in Lemon Grove (based on E&TS).

The California Vehicle Code (CVC) requires that local agencies review changes in local speed limits every five years to determine if the existing street segment speed limits require updating due to the age of the engineering and traffic survey or due to changes in roadway conditions.

### Need to Perform Engineering and Traffic Surveys

The CVC establishes minimum and maximum prima facie speed limits for all streets in the State. The minimum prima facie speed limit is 25 miles per hour (MPH) and the maximum speed limit is 65 MPH. Because no streets in Lemon Grove qualify for the maximum speed, all prima facie speed limits in the City are established at 25 MPH.

In order for a local agency to establish speed limits different from the prima facie limits, a local agency must approve the increased limit based on an E&TS. The CVC requires that the speed limits must be set by City Council through ordinance or resolution and be based upon E&TS performed within the last five years. Consequently, every five years the speed limits must be re-established by City Council and supported by an E&TS. This process allows the City law enforcement to utilize radar technology to enforce speed limits on City streets.

On August 19, 2008, the City Council adopted Ordinance No. 376 which repealed all prior ordinances establishing speed limits and added Municipal Code Section 10.12.010 allowing speed limit changes, consistent with CVC requirements, to be set by resolution. The City Council adopted Resolution No. 2815 on August 5, 2008, which adopted various speed limits on City streets. These speed limits were effective as of September 20, 2008.

In March of 2016, staff contracted with Rick Engineering Company to perform an E&TS consistent with the CVC. Rick Engineering Company performed this E&TS on 29 roadway segments and prepared a summary report of the E&TS findings (**Attachment B**).

# Attachment A

## Required Elements of an Engineering and Traffic Survey

The California Manual of Uniform Traffic Control Devices (CAMUTCD) 2014 Edition is used to define the method by which appropriate speeds are determined in an E&TS. An appropriate speed limit is defined as a reasonable speed limit that conforms to the actual behavior of a majority of motorists. The policy states that by measuring actual driving speeds, one can determine a speed limit that is both reasonable and effective. Elements that are to be considered in a study include:

- prevailing speed,
- accident history,
- visibility,
- pavement condition,
- existing regulatory warning and guide signing,
- routes to school used by children,
- pedestrian movements,
- traffic volumes,
- effect of roadside development abutting residential density, and
- parking practices.

## Speed Limit Modifications

Staff has completed the required E&TS, including the elements addressed above. 29 street segments were analyzed. The studies resulted in a recommendation to modify the speed limits on four street segments throughout the City. The E&TS summary is included as **Attachment B**. The full report for each street segment is available at City Hall for examination.

Staff recommends modifying the following street segment speed limits by resolution:

Street Name	Segment	Existing Posted MPH	Proposed MPH	Change in MPH
Madera Street	Massachusetts to 69 <sup>th</sup> St.	40	35	-5
Federal Blvd. (northbound)	College Pl. to MacArthur Dr.	45	40	-5
Federal Blvd. (southbound)	College Pl. to MacArthur Dr.	45	40	-5
Lemon Grove Ave. (northbound)	Lincoln St. to San Miguel Ave.	45	40	-5

These proposed speed limits are determined by analyzing the average rate of speed traveled by 85 percent of motorists on those specific street segments. California law requires that posted speeds be consistent with the 85 percentile rate in order to utilize radar enforcement of speed limits. The remaining City street segment speed limits are proposed to remain the same.

## **Conclusion:**

Staff recommends that City Council adopts a resolution (**Attachment C**) accepting the engineering and traffic survey which confirms and updates speed limits on various streets in Lemon Grove in conformance with Lemon Grove Municipal Code Section 10.12.010.



July 25, 2016

SUBJECT: CITY OF LEMON GROVE SPEED ZONE UPDATE

The following memorandum summarizes the Engineering and Traffic Surveys conducted for the establishment and enforcement of speed limits for twenty-nine (29) roadway segments within the City of Lemon Grove. This survey was authorized by the City of Lemon Grove and conducted by Rick Engineering Company and Veracity Traffic Group.

## INTRODUCTION

The California Vehicle Code (CVC) requires that local agencies review changes in local speed limits every five years to determine if the speed limits require updating due to the age of the engineering and traffic survey or due to changes in roadway conditions. Speed limits are normally set near the 85<sup>th</sup> percentile speed (critical speed) that statistically represents one standard deviation above the average speed and establishes the upper limit of what is considered reasonable and prudent. When a speed limit is to be posted, it shall be established at the nearest 5 mph increment of the 85<sup>th</sup> percentile speed of free-flowing traffic, except as shown in the two options below:

1. The posted speed may be reduced by 5 mph from the nearest 5 mph increment of the 85<sup>th</sup> percentile speed, in compliance with CVC Sections 627 and 22358.5.
2. For cases in which the nearest 5 mph increment of the 85<sup>th</sup> percentile speed would require a rounding up, then the speed limit may be rounded down to the nearest 5 mph increment below the 85<sup>th</sup> percentile speed, if no further reduction is used. Refer to CVC Section 21400(b).

The equipment used to obtain prevailing speed data was an unmarked car and a radar speed meter. The speed meter utilized is a Bushnell Velocity Speed Gun and was calibrated on March 30, 2016. Utilizing the radar analysis, 85<sup>th</sup> percentile speed is determined and then is used to set the upper limit of roadway segment speed limit.

## EXISTING CONDITIONS

Rick Engineering Company conducted a field survey of existing speed limit signs on April 14, 2016. **Exhibit 1** shows the existing posted speed limits for all twenty-nine (29) roadway segments surveyed and **Exhibit 2** shows locations of all speed limit signs in the study area. Average Daily Traffic (ADT) volumes were also collected at each roadway segment analyzed. **Exhibit 3** shows a summary of ADT volumes along the studied roadway segments.

# Attachment B

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## RECOMMENDATIONS

Based on the radar speed surveys conducted by Veracity Traffic Group between April 12, 2016 and May 26, 2016, and Engineering and Traffic Surveys for the Speed Zone Update, it has been determined that the posted speed limit should be lowered for the following three (3) roadway segments:

Street	Segment	Old Speed Limit (MPH)	New Speed Limit (MPH)
1. Federal Blvd.	College Pl. to MacArthur Dr.	45	40**
2. Lemon Grove Ave.	Lincoln St. to San Miguel Ave.	45 (NB)	40 (NB)*
3. Madera St.	Massachusetts Ave. to 69 <sup>th</sup> St.	40	35**

\* Posted speed limit for southbound Lemon Grove Avenue between Lincoln Street to San Miguel Avenue to remain at 40 MPH.

\*\*Both directions

It is recommended that the posted speed limit should remain the same at the following twenty-six (26) locations:

Street	Segment	Existing Speed Limit (MPH)
1. Broadway	Federal Blvd. to Buena Vista Ave.	35
2. Broadway	Buena Vista Ave. to Kempf St.	30
3. Broadway	Kempf St. to Sweetwater Rd.	40
4. Broadway	Sweetwater Rd. to East City Limits	45
5. Canton Dr.	Lemon Grove Ave. to Glencoe Dr.	30
6. Canton Dr.	Glencoe Dr. to East City Limits	30
7. Central Ave.	Federal Blvd. to Massachusetts Ave.	35
8. Central Ave.	Massachusetts Ave. to New Jersey Ave.	30
9. Central Ave.	New Jersey Ave. to Lemon Grove Ave.	30
10. Kempf St.	Broadway to Palm St.	35
11. Lemon Grove Ave.	Broadway to Lincoln St.	35
12. Lemon Grove Ave.	San Miguel Ave. to Mt. Vernon St.	45
13. Lemon Grove Ave.	Mt. Vernon St. to South City Limits	45
14. Lemon Grove Way	Broadway to Grove St.	30
15. Lemon Grove Way	Grove St. to Lemon Grove Ave.	30
16. Main St.	Broadway to Central Ave.	30
17. Main St.	Central Ave. to Mt. Vernon St.	30
18. Massachusetts Ave.	Broadway to Madera St.	40
19. Massachusetts Ave.	Madera St. to Lemon Grove Ave.	35
20. Mt. Vernon Ave.	69 <sup>th</sup> St. to Massachusetts Ave.	35
21. Mt. Vernon Ave.	Massachusetts Ave. to Main St.	30
22. Palm St.	Lemon Grove Ave. to Golden Ave.	40
23. San Miguel Ave.	Lemon Grove Ave. to Massachusetts Ave.	30
24. San Miguel Ave.	Massachusetts Ave. to Federal Blvd.	30
25. Skyline Dr.	Palm St. to South City Limits	40
26. Sweetwater Rd.	Broadway to South City Limits	45

## Attachment B

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**Table 1** summarizes the recommendations for posted speed limits and **Exhibit 4** shows the recommended posted speed limits at all twenty-nine (29) roadway segments. Individual Engineering and Traffic Survey reports were provided for each roadway segment studied.

### SUMMARY

Based on the Engineering and Traffic Surveys, it is recommended that City of Lemon Grove staff work with City Council to adopt a resolution lowering speed limits by 5 MPH on three (3) roadway segments and maintain the current speed limits at twenty-six (26) roadway segments, previously identified.

If you have any questions, please contact me directly at (619) 291-0707.

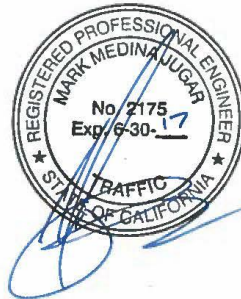
Sincerely,

RICK ENGINEERING COMPANY

  
Mark M. Jugar, PE, TE, PTOE  
TE 2175

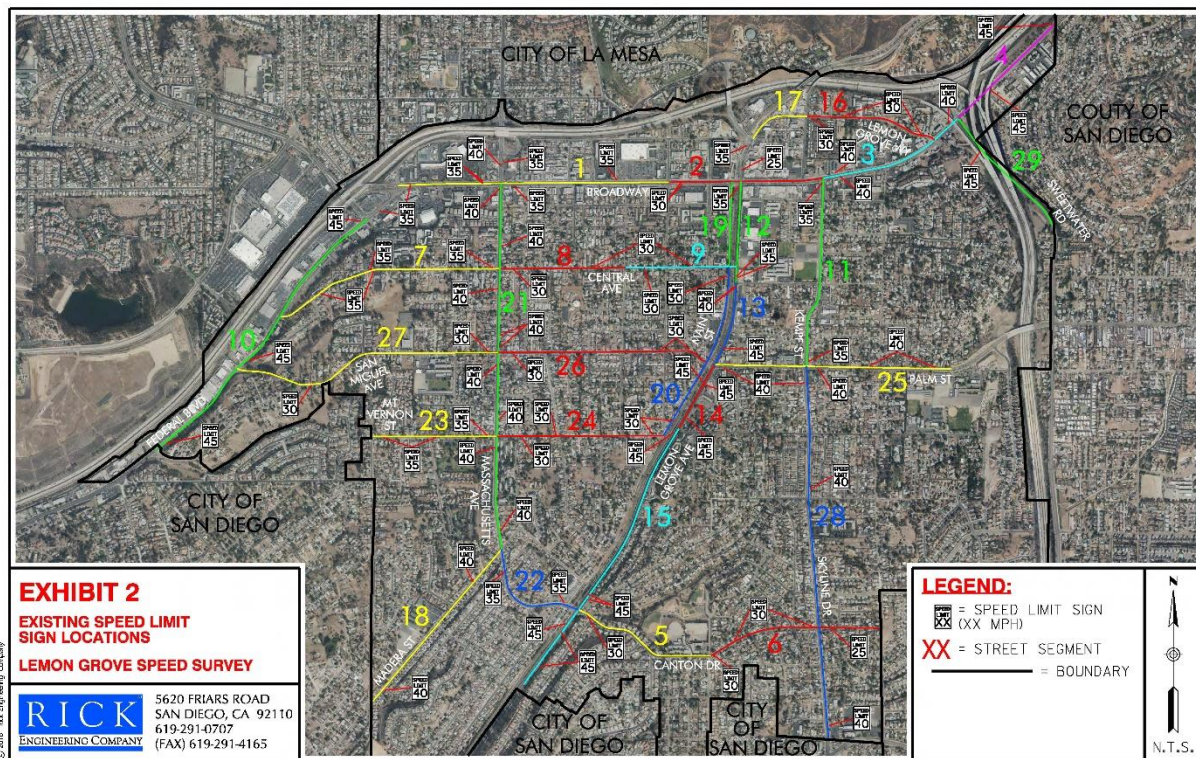
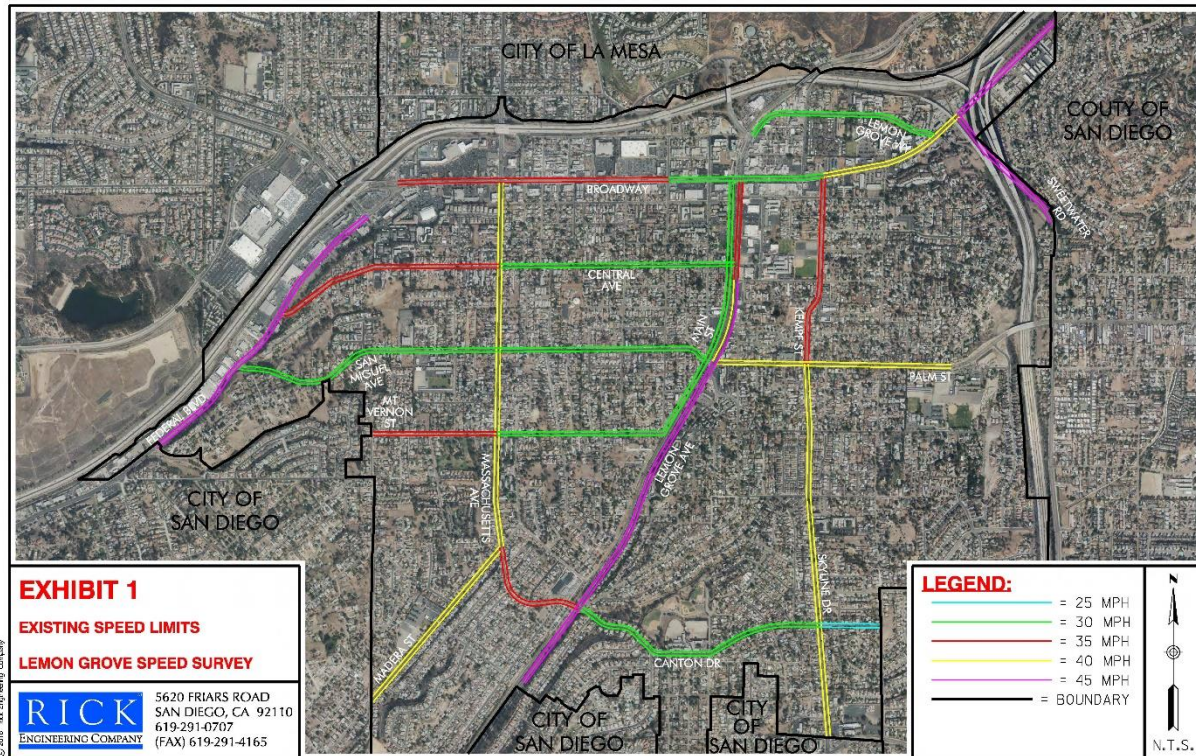
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Attachments

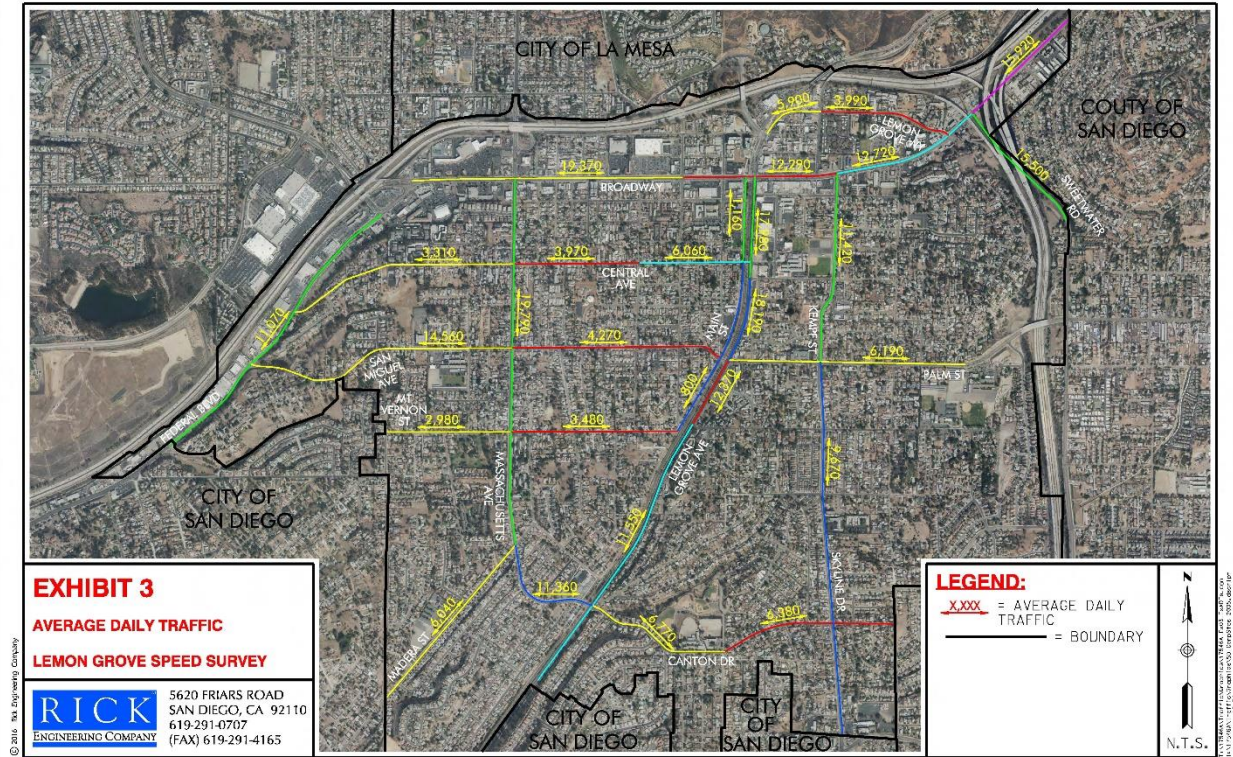




# Attachment B







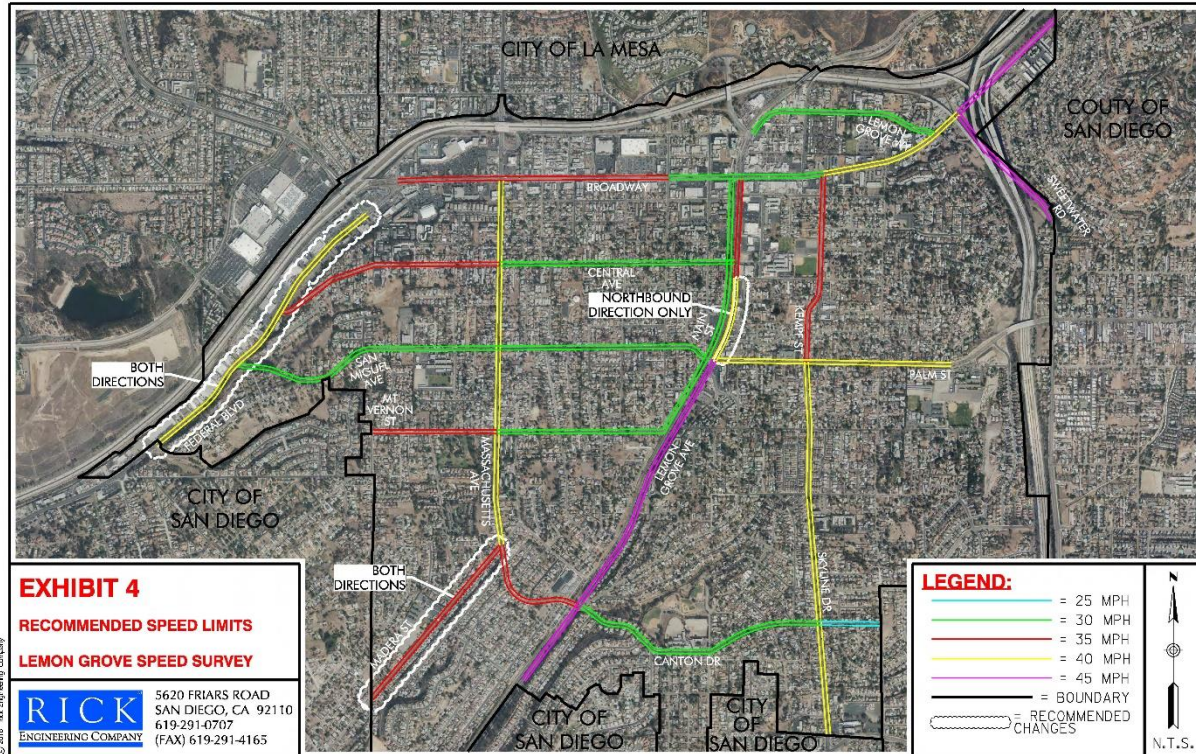
# Attachment B



**TABLE 1**  
**SPEED LIMIT RECOMMENDATIONS**  
**LEMON GROVE SPEED SURVEY**

	Street Segment	Existing Average Daily Traffic (ADT)	Existing Posted Speed	85th Percentile Speed	Recommendation	Comments
<b>Broadway</b>						
1	between Federal Blvd and Buena Vista Ave	19,370	35 MPH	39 MPH	No Change	
2	between Buena Vista Ave and Kempf St	12,290	30 MPH	31 MPH	No Change	
3	between Kempf St and Sweetwater Rd	12,720	40 MPH	44 MPH	No Change	
4	between Sweetwater Rd and East City Limits	15,920	45 MPH	50 MPH	No Change	45 MPH East of City Limits
<b>Canton Dr</b>						
5	between Lemon Grove Ave and Glencoe Dr	6,770	30 MPH	33 MPH	No Change	
6	between Glencoe Dr and East City Limits	6,380	30 MPH	29 MPH	No Change	
<b>Central Ave</b>						
7	between Federal Blvd and Massachusetts Ave	3,310	35 MPH	38 MPH	No Change	
8	between Massachusetts Ave and New Jersey Ave	3,970	30 MPH	34 MPH	No Change	
9	between New Jersey Ave and Lemon Grove Ave	6,060	30 MPH	32 MPH	No Change	
<b>Federal Blvd</b>						
10	between College Place and MacArthur Dr	11,070	45 MPH	44 MPH	<b>Lower to 40</b>	40 MPH West of City Limits
<b>Kempf St</b>						
11	between Broadway and Palm St	11,420	35 MPH	40 MPH	No Change	
<b>Lemon Grove Ave</b>						
12	between Broadway and Lincoln St	17,980	35 MPH	38 MPH	No Change	
13	NB between Lincoln St and San Miguel Ave	18,190	45 MPH	41 MPH	<b>Lower to 40</b>	
	SB between Lincoln St and San Miguel Ave		40 MPH	41 MPH	No Change	
14	between San Miguel Ave and Mt Vernon St	12,370	45 MPH	50 MPH	No Change	
15	between Mt Vernon Ave and South City Limits	11,550	45 MPH	52 MPH	No Change	
<b>Lemon Grove Way</b>						
16	between Broadway and Grove St	3,990	30 MPH	37 MPH	No Change	
17	between Grove St and Lemon Grove Ave	5,900	30 MPH	30 MPH	No Change	
<b>Madera St</b>						
18	between Massachusetts Ave and 69th St	6,040	40 MPH	39 MPH	<b>Lower to 35</b>	35 MPH south of City Limits
<b>Main St</b>						
19	between Broadway and Central Ave	1,160	30 MPH	33 MPH	No Change	
20	between Central Ave and Mt Vernon St	800	30 MPH	32 MPH	No Change	
<b>Massachusetts Ave</b>						
21	between Broadway and Madera St	19,790	40 MPH	47 MPH	No Change	
22	between Madera St and Lemon Grove Ave	11,360	35 MPH	38 MPH	No Change	
<b>Mt Vernon St</b>						
23	between 69th St and Massachusetts Ave	2,980	35 MPH	39 MPH	No Change	
24	between Massachusetts Ave and Main St	3,480	30 MPH	33 MPH	No Change	
<b>Palm St</b>						
25	between Lemon Grove Ave and Golden Ave	6,190	40 MPH	45 MPH	No Change	
<b>San Miguel Ave</b>						
26	between Lemon Grove Ave and Massachusetts Ave	4,270	30 MPH	34 MPH	No Change	
27	between Massachusetts Ave and Federal Blvd	14,560	30 MPH	34 MPH	No Change	
<b>Skyline Dr</b>						
28	between Palm St and South City Limits	9,670	40 MPH	44 MPH	No Change	
<b>Sweetwater Rd</b>						
29	between Broadway and South City Limits	15,500	45 MPH	50 MPH	No Change	45 MPH south of City Limits





# Attachment C

## RESOLUTION NO. 2016-\_\_\_\_\_

### RESOLUTION OF THE LEMON GROVE CITY COUNCIL ACCEPTING THE ENGINEERING AND TRAFFIC SURVEY AND CONFIRMING AND UPDATING SPEED LIMITS ON VARIOUS STREETS IN LEMON GROVE IN CONFORMANCE WITH LEMON GROVE MUNICIPAL CODE SECTION 10.12.010

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**WHEREAS,** the California Vehicle Code requires speed limits set by City Council through ordinance or resolution and be based upon engineering and traffic studies performed within the last five years; and

**WHEREAS,** on August 19, 2008, the City Council adopted Ordinance No. 376 which repealed all prior ordinances establishing speed limits and added Section 10.12.010 in the Lemon Grove Municipal Code allowing speed limit changes, consistent with the California Vehicle Code, to be set by resolution; and

**WHEREAS,** on August 19, 2008, the City Council adopted speed limit changes for various street segments in the City limits; and

**WHEREAS,** establishing safe and reasonable speed limits for various sections of roadway will reduce the number of accidents; and

**WHEREAS,** staff utilized the California Manual of Uniform Traffic Control Devices 2014 Edition to determine appropriate speeds in the engineering and traffic studies; and

**WHEREAS,** Rick Engineering Company prepared an engineering and traffic survey; and

**WHEREAS,** the engineering and traffic survey accounted for other elements such as prevailing speed, accident history, visibility, pavement condition, existing regulatory warning and guide signing, routes to school used by children, pedestrian movements, traffic volumes, effect of roadside development abutting residential density, and parking practices; and

**WHEREAS,** the engineering and traffic survey serves as evidence allowing the Sheriff's Department to use radar for speed enforcement; and

**WHEREAS,** without valid studies and the speed limit set in accordance with these studies, radar speed enforcement is not permitted. ]

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Lemon Grove, California hereby:

1. Accepts the engineering and traffic studies; and
2. Directs staff to post or change speed limit signs addressed in the studies; and
3. Directs staff to enforce the new speed limits upon installation of updated speed limit signs.]

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